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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,390	01/16/2002	Stephen F. Gass	SDT 319	2969
27630	7590	06/15/2005	EXAMINER	
SD3, LLC 22409 S.W. NEWLAND ROAD WILSONVILLE, OR 97070			ALIE, GHASSEM	
			ART UNIT	PAPER NUMBER
			3724	

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/053,390	Applicant(s) GASS ET AL.	
	Examiner Ghassem Alie	Art Unit 3724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 March 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 21-29 is/are pending in the application.
4a) Of the above claim(s) 2-8 and 21-23 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-8 and 21-29 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 16 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>02/27/05&06/04/05</u> | 6) <input type="checkbox"/> Other: _____ |

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 and 24-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Friemann et al. (3,858,095), hereinafter Friemann, in view of Hugues et al. (5,081,406), hereinafter Hugues, and in further view of Hokodate et al. (6,150,826), hereinafter Hokodate. Regarding claim 1 and 29, Friemann teaches a method for detecting accidental contact between a person and a dangerous portion 5 of a woodworking machine 10 including steps of providing a first electrode electrically coupled to a person, providing a second electrode electrically coupled to the dangerous portion 5, and transmitting a signal by one of the first or second electrodes and detecting whether the transmitted signal is received by the other of the first or second electrodes. If an operator should touch the band saw, or the dangerous portion, the capacitance Cbm, which is connected to the band saw, is thereby changed and a voltage is transmitted from the bridge 3 to the amplifier circuit 4. The voltage is considered to be the signal which is transmitted by one of the first or second electrodes. See Figs. 1-6 and col. 3, lines 6-67 in Friemann. Friemann does not teach when the transmitted signal is received by the other of the first or the second electrode, the signal is sampled a plurality of times within 200 microseconds to determine if the signal has at least one predetermined characteristic indicative of contact between a person and the dangerous portion. Hugues teaches a detective mechanism that detects proximity of a person to a dangerous portion 18. Hugues also teaches

a step of detecting other objects in proximity of the dangerous portion. Hugues's detection mechanism differentiates the presence of other objects in proximity of the dangerous portion 18 and a human hand. Hugues's safety system stops the operation of the saw 18 when a human hand approaches within a predetermined distance to the saw blade 18 and allows a fixed object to be placed near the saw blade without stopping the operation of the saw blade. See col. 5, lines 1-65 and col. 6, lines 1-62 in Hugues. Hugues does not teach the step of sampling within 200 microsecond to determine if the signal has at least one characteristics indicative of contact between a person and the dangerous portion. However, Hokodate teaches a distance detector 400 which has sampling circuit to sample the detection's output of the detecting circuit 8 a plurality of times within a predetermined of time to determine the actual distance between the two electrodes or workpiece 2 and a laser beam 4. See Figs. 1-16 and col. 11, lines 1-67 and col. 12, lines 1-64 in Hokodate. Hocodate does not expressly teach that the samplings take place within 200 microseconds. However, Hokodate teaches that the samplings take place within a fixed period of time and within a desired range. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to manipulate the sampling period to a desired result, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

It would be obvious to a person of ordinary skill in the art to provide Friemann safety system with the detection mechanism as taught by Hugues and the sampling circuit as taught by Kokodate in order to improve the safety system and the stop the operation of the dangerous portion only when a human hand approaches the dangerous portion.

Regarding claim 24, Friemann as modified above teaches everything noted above including that the predetermined characteristic indicative of contact between a person and the dangerous portion distinguishes such contact from proximity between a person and the dangerous portion.

Regarding claim 25-28, Friemann as modified by Hokodate teaches that one predetermined characteristic indicative of contact between a person and the dangerous portion involves peak-to-peak amplitude, phase, a positive value, and a negative value. Hokodate teaches that the detection of distance between the two electrodes involves in-phase, maximum amplitude or pick-to-pick amplitude, and phase shifting which inherently involves negative and positive values.

Response to Amendment

3. Applicant's arguments filed 03/25/05 have been fully considered but they are not persuasive.

Applicant's argument that Friemann does not teach that a first electrode is coupled to a person is not persuasive. Friemann teaches when an operator touches the band saw, or the dangerous portion, the capacitance C_{bm} , which is connected to the band saw, is thereby changed and a voltage is transmitted from the bridge 3 to the amplifier circuit 4. The human body has conductivity and dielectric constant and it is naturally part of the electric circuit that is also connected to the first and second electrodes. When a person stands on the ground by the cutting machine and touches the cutting blade that is connected to a second electrode, the blade becomes couple to ground through the body of the person. In this case, the ground is considered the to be the first electrode that is coupled to the person.

Applicant's argument that Freimann as modified by Hughes and Hokodate does not teach the step of sampling the signal a plurality of times within 200 microseconds is not persuasive. Hockdate teaches a distance detector 400 which has sampling circuit to sample the detection's output of the detecting circuit 8 a plurality of times within a predetermined of time to determine the actual distance between the two electrodes or workpiece 2 and a laser beam 4. See Figs. 1-16 and col. 11, lines 1-67 and col. 12, lines 1-64 in Hokodate. Hockdate does not expressly teach that the samplings take place within 200 microseconds. However, Hokodate teaches that the samplings take place within a fixed period of time and within a desired range. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to manipulate the sampling period to a desired result, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). The step of sampling a signal a plurality of time within a fixed time period is well known in the art such as taught in Hockodate or Kithil (5,602,734). It is obvious to a person of ordinary skill in the art to contact the high sampling in a very small fraction of second in order to produce an accurate reading of the transmitted signal. Hokodate teaches that samplings take place within a fixed period of time and within a desired range. Therefore, it is within the skill of a person of ordinary skill in the art to change the rate of the sampling to a desired rate that helps the computation of the signal and produces an accurate reading of the signal.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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Bread et al. (6,757,602), Stringer et al. (6,064,629), Savoy et al. (5,341,133), and Kithil (5,602,734) teach a sampling step of a transmitted signal within a predetermined period of time.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ghassem Alie whose telephone number is (571) 272-4501. The examiner can normally be reached on Mon-Fri 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan Shoap can be reached on (571) 272-4514. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information

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for unpublished applications is available through Private PAIR only. For more information about the PAIR system, SEE <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (too-free).



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GA/ga

June 10, 2005